

REMARKS

Claims 1-22 are pending.

Claims 1-22 stand rejected.

Claims 1 and 4 have been amended.

Claim Rejections - 35 U.S.C. § 101

Claims 1-22 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter and as not being supported by either a specific asserted utility of a well established unity.

The Federal Circuit recently addressed the subject of subject matter patentability in *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (*en banc*). In *In re Bilski*, the court “conclude[ed] that the “useful, concrete and tangible result” inquiry is inadequate and reaffirm[ed] that the machine-or-transformation test outlined by the Supreme Court is the proper test to apply.” *Id.* “The machine-or-transformation test is a two-branched inquiry; an applicant may show that a process claim satisfies §101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.” *Id.*

The method of claim 1 is specifically tied to a particular machine, namely “a computer system”. Claim 1. More specifically, claim 1 is a “method of using a computer system” and the first element of claim 1 recites “performing with the computer system” *Id.* Claim 1 certainly has a practical application of being able to combine first and second configuration models of a product” and “in answering configuration questions relating to the product.”

The Office Action states that since the particular product is not specified, claim 1 is directed to a general application not a specific application. However, Applicants respectfully submit that determination of statutory subject matter does not turn on specific application versus general application, particularly in the context of whether the claim recites a “product” or a specific product. The Federal Circuit has stated that “certain types of mathematical subject matter, standing alone, represent nothing more

than abstract ideas until reduced to some type of practical application.” *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994) (emphasis added). Thus, the inquiry in this instance, the 35 U.S.C. § 101 inquiry is based on whether claim 1 has a practical application not whether the application is general or specific. Since claim 1 is tied to a particular machine and has a practical application, Applicants respectfully submit that claim 1 recites statutory subject matter under 35 U.S.C. § 101.

Claim 3 is a particular machine, namely “A computer system ... comprising: a processor; and a memory, coupled to the processor, having code stored therein and executable by the processor for:” Claim 1 certainly has a practical application of being able to combine first and second configuration models of a product” and “in answering configuration questions relating to the product.” Claim 1 is, thus, patentable under 35 U.S.C. § 101.

Claim 4 has been amended to recite “A tangible, computer readable medium” and, thus, excludes signals *per se*.

Applicants respectfully submit that claims 1, 3, and 4 meet the requirements of 35 U.S.C. § 101

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections - 35 U.S.C. § 112

Claims 1-22 stand rejected under 35 U.S.C. § 112, first and second paragraphs. Applicants respectfully traverse the rejections.

The Examiner states that the rationale for rejection under 35 U.S.C. § 112, 1st paragraph “is based on the 101 - abstract idea, which is a separate inquiry than the one addressed in [*In re Bilski*].” Applicants respectfully submit that the Examiner’s basis for rejection is essentially the same basis as the rejection under 35 U.S.C. § 101. *In re Bilski* specifically addressed abstract ideas and their patentability. The Federal Circuit specifically said that, “The true issue before us then is whether Applicants are seeking to

claim a fundamental principle (such as an abstract idea) or a mental process.” *In re Bilski*, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (Fed. Cir. 2008) (*en banc*).

Accordingly, for at least the same reasons presented in response to the 35 U.S.C. § 101 rejection, Applicants respectfully request withdrawal of the 35 U.S.C. § 112, 1st paragraph rejection.

The Examiner has maintained a rejection under 35 U.S.C. § 112, 1st paragraph with regard to enablement. The Examiner states that “Applicant has merely pointed to specification [0098]-[0101], without any guidance or specific description how the steps of extending, removing, and combining are enabled.” Office Action, p. 3, para. 13.

The burden is on the Examiner to establish a *prima facie* case of nonenablement. Applicants have specifically pointed the Examiner to exemplary, enabling sections. However, the Examiner has dismissed Applicants’ response for not providing guidance to enablement. Applicants respectfully submit that the cited sections represent an exemplary guidance to enablement. Applicants have already pointed out that with regard to support for “identifying a conflict between at least two of the configuration models”, the Specification of the Present Application includes a “Check for unspecified buildables.” Present Application, para. (96). In one embodiment, the presence of an unspecified buildable indicates a conflict between at least two configuration models that triggers allowing a rule from one model to extend into another at a non-trivial family and repair the extension at a family below the non-trivial family. Figure 10 and the Present Application, paras. (68)-(144), provide specific details and an example that meet the enablement requirement. Applicants respectfully request the Examiner to specifically set forth the reasons as to why the cited sections do not enable one of ordinary skill in the art to make and use the aspect of the invention being rejected or withdraw the rejection.

The Office Action also states that, “Further, even if the cited section may teach the limitation, the specification cited cannot be imported in to claim.” Office Action, p. 3, para. 13. Applicants respectfully submit that enablement under 35 U.S.C. § 112, 1st para. does not require that the “specification ... be imported in to [the] claim” in order to

provide enablement as implied in the Office Action. 35 U.S.C. § 112, 1st paragraph requires that:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Clearly, enablement under 35 U.S.C. § 112, 1st paragraph does not require importation of limitations into the claims to meet the enablement requirement.

The Examiner alleges that the means for identifying, extending, removing, and combining in claim 22 are not disclosed. Referring to Figure 10, operations 1002-1003 represent an exemplary “means for identifying ...”, operations 1004 and 1105 represent an exemplary “means for extending”, operations 1006, 1009, 1010, and Figure 11 represent an exemplary “means for removing”, and operation 1010 represents an exemplary “means for combining”. The foregoing identify exemplary means to perform the identified functions and are not intended to be an exclusive identification of the means for performing the identified functions. The functions do not necessarily require all parts of the operations identified and other operations may also perform the identified functions.

Note, the present invention is defined by the claims and not by specific embodiments in the Specification of the Present Application.

Accordingly, Applicants respectfully request withdrawal of the rejection.

Claim Rejections - 35 U.S.C. § 103

Claims 1-22 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over U.S. Publication No. 2002/0165701 to Lichtenberg et al. (hereinafter “*Lichtenberg*”) in view of the IEEE article “The Combining DAG: A Technique for Parallel Data Flow Analysis by Robert Kramer et al. (hereinafter “*Kramer*”). Applicants respectfully traverse the rejection.

Applicants respectfully submit that *Lichtenberg* in view of *Kramer* neither teaches nor suggests “consolidat[ing] **multiple** configuration models of a product.” Claims 1, 3, and 4.

The Office Action, p. 4, states that:

Applicant has repeatedly alleged that *Lichtenburg*’s (sic) single product model with various alternatives to the components with values and rules is not the same as multiple configurations of **applicant’s product model**. However applicant has failed to provide any argument why the multiple configurations are different and cannot be given broadest reasonable interpretation as product comprising alternatives to component making up various configurations. In fact the specification Fig. 9A confirms that the variations is due to various engine alternatives in car model.

Applicants respectfully submit that the Office Action has mischaracterized the invention of claims 1, 3, and 4, and the statement regarding Fig. 9A cannot be logically sustained.

The invention of claims 1, 3, and 4 relate to consolidating **multiple** configuration models of a product. The Examiner on p. 4 refers to “multiple configurations of applicant’s product model.” However, an accurate characterization should refer to “**multiple configuration models**” not “multiple **configurations** of applicant’s product model.”

This is significant because although claims 1, 3, and 4 refer to “combining the **first and second configuration models** into a single, consolidated model”, *Lichtenberg* in view of *Kramer* relates to simplification of a “**single model**” not “combining first and second configuration **models**.”

A single model is clearly different than multiple models. Referring to Figure 9A of the Present Application, two distinct configuration models are depicted, i.e. configuration model 602 and 822. **By inspection**, configuration models 602 and 822 are not a single model. On the other hand, *Lichtenberg* repeatedly refers to a **single** product model. For example, “**The product model**”, [*Lichtenberg*, para. 0233], “**The Product Model**” [*Id.*, para. 0234], “**the product model**” [*Id.*, para. 0235], “**the product model**” [*Id.*,

para. 0236], “a computer product model” [*Id.*, para. 0237], and so on. Thus, *Lichtenberg* itself makes the distinction by continually reciting a **single** model. Applicants respectfully submit that given *Lichtenberg*’s repeated representation of a product model in the singular, the broadest interpretation of *Lichtenberg* cannot include multiple configuration models. Claims 1, 3, and 4 clearly refer to multiple configuration models, and, thus, cannot be construed as a “single product model.”

Additionally, given that *Lichtenberg* relates to a **single** model, there is no reason in *Lichtenberg* for “combining the first and second configuration models into a single, consolidated model” as required by claims 1, 3, and 4.

As previously mentioned, Figure 9A of the Present Application depicts two exemplary configuration models 602 and 822. Model 922 is a result of combining the two configuration models. The two models 602 and 822 have a variation relating to the engine models. The variation is not what causes the configuration models to be distinct. They are simply two separate models. However, the variation between models 602 and 612 (Figure 6, from which model 822 is derived) is a clear indication of their distinction as separate models.

It does not logically follow that a model that includes alternate selections teaches two models. Simply because a model provides for alternative feature selections does not necessitate two different models. Configuration model 602 clearly illustrates this point. Engine 1 and Engine 2 are alternative selections in Market 1. However, simply because alternatives exist does not mean that configuration model 602 is more than one model. Thus, having alternative selections does not necessarily mean that the model is the same as two models. Accordingly, multiple configuration models are distinct from a single model regardless of intra-model selection choices or inter-model variations.

Thus, *Lichtenberg* teaches that a product is represented by a **single** model and does not address “consolidate[ing] multiple configuration models of a product”. *Id.* More specifically, “a product model is used to model relevant aspects of the product.” *Lichtenberg*, para. 0224. “The product model describes components, attributes for these components, as well as alternatives for each component and values for each attribute.”

Id., para. 0226. “Furthermore the product model comprises a group of rules relating to compatibilities between components and attributes.” *Id.* See also, *Lichtenberg*, paras. 0234-0261 which describe the product model in detail. Notably, *Lichtenberg* nowhere does *Lichtenberg* discuss “consolidat[ing] multiple configuration models of a product” as recited by claims 1, 3, and 4.

Lichtenberg teaches representing the **single** model as a directed acyclic graph (DAG). *Lichtenberg* teaches that “the product model is encoded as a virtual table[, and] the virtual table is a directed acyclic graph that represents all consistent configurations.” *Lichtenberg*, para. 0231. *Lichtenberg* teaches that:

An important aspect of the invention is the process of transforming a product model to a compact and efficient representation. The purpose of the transformation is to first find a way of encoding and finding all solutions to the configuration problem and then tabulate them virtually in a virtual table such that information relating to the configuration problem can be obtained by efficient queries to the virtual table. The encoding involves finding an encoding of the components of the product model and a corresponding encoding of the rules. A DAG will represent all the rules, such that enquiries about valid solutions to the rules can be performed efficiently. *Lichtenberg*, para. 0274.

Thus, the DAG is used to represent all the rules of a **single** product model and is unrelated to “consolidate[ing] multiple configuration models of a product” as recited by claims 1, 3, and 4.

Lichtenberg does teach “combining two DAGs”. *Lichtenberg*, para. 0076. However, Applicants respectfully submit that the combining of DAGs taught by *Lichtenberg* is not in the context of “consolidate[ing] multiple configuration models of a product” as recited by claims 1, 3, and 4. Specifically, *Lichtenberg* teaches:

[0077] In order to maintain a suitable DAG, the representing of the rules in the DAG may further comprise the steps of:

[0078] identifying a first and a second node having the same expression and the pointers of which point to the same nodes, and

[0079] having pointers pointing to the first node point to the second node.

[0080] In that situation, two nodes actually representing the same contents are reduced to only one.

Lichtenberg also teaches:

[0134] It is preferred to modify the DAG by as early as possible removing the "hidden" components. This may be done by:

[0135] for each of the rules, constructing a partial DAG representing the rule,

[0136] identifying at least one of the components to be hidden,

[0137] selecting an ordering of the identified components,

[0138] initially constructing an actual DAG representing no rules and then repeatedly,

[0139] selecting a non-selected component of lowest order,

[0140] repeatedly, until all partial DAGs comprising expressions relating to the selected component have been chosen:

[0141] choosing a partial DAG comprising expressions relating to the selected component,

[0142] combining the actual DAG with the chosen partial DAG into a new actual DAG,

[0143] changing the actual DAG by:

[0144] identifying nodes in the actual DAG comprising expressions relating to the identified component,

[0145] removing these nodes from the actual DAG,

[0146] adding nodes, not comprising expressions relating to the identified component, to the actual DAG so that the compatibilities implied by the identified component are reflected by the actual DAG,

[0147] providing the DAG by combining the actual DAG with all non-chosen partial DAGs.

Accordingly, *Lichtenberg* teaches representing the **single** model as a directed acyclic graph (DAG), and *Lichtenberg*'s teachings regarding combining DAGs does not

teach or suggest “combining the first and second configuration models into a single, consolidated model.” Claims 1, 3, and 4.

Additionally, Applicants respectfully submit that para. 0006 of *Lichtenberg* is not referring to a conflict between “multiple configuration models of a product” but is rather referring to alternative choices to be made when configuring a product, i.e. “a specific alternative must be selected for each of the components to build the complex product.” *Lichtenberg*, para. 0006. Furthermore, Applicants respectfully submit that paras. 0007-0008 do not refer to conflicting models but rather relate to (i) configuring a product by choosing alternatives and (ii) “all combinations of the alternatives will not work.” *Id.*, para. 0008. For example, if “the front and the rear wheel must be of the same type” then an alternative type rear wheel would be incompatible with a different type of front wheel. Thus, references to alternatives in *Lichtenberg* and ““all combinations of the alternatives will not work” is not a reference to “combining the first and second configuration models into a single, consolidated model.” Claims 1, 3, and 4.

Regarding *Kramer*, the Examiner admits that “*Kramer* however fails to teach that the DAGs are for consolidating multiple configuration models and limits the teaching to consolidating multiple paths in a non-cyclic way as in a DAG.” Office Action, p. 13.

Accordingly, since neither *Lichtenberg* nor *Kramer* relate to “consolidate[ing] multiple configuration models of a product” as recited by claims 1, 3, and 4, *Lichtenberg* in view of *Kramer* fail to teach or suggest:

consolidate[ing] multiple configuration models of a product [] comprising[]:

identifying a conflict between at least two of the configuration models, wherein the configuration models are organized in accordance with respective directed acyclic graphs, each configuration model includes at least one ancestor configuration model family space and a child configuration model family space below the ancestor configuration model family space, a first of the conflicting configuration models comprises an ancestor configuration model family space that is different than an ancestor configuration model family space of a second of the conflicting configuration model, and each child configuration model family space

constrains the ancestor configuration model family space above the child in accordance with configuration rules of the configuration model to which the child belongs;

extending at least one of the ancestor configuration model family spaces of the conflicting configuration models so that the ancestor configuration model family spaces of the first and second conflicting configuration models represent the same ancestor configuration model family space;

removing from the child configuration model family space any configuration space extended in the ancestor of the child configuration family space; and

combining the first and second configuration models into a single, consolidated model that maintains a non-cyclic chain of dependencies among families and features of families for use in answering configuration questions related to the product.

For at least the foregoing reasons, Applicants respectfully request withdrawal of the rejection of claims 1, 3, and 4 and claims directly or indirectly dependent thereon.

CONCLUSION

Applicant respectfully submits that all pending claims are in condition for allowance. Accordingly, Applicant requests that a Notice of Allowance be issued. Nonetheless, should any issues remain that might be subject to resolution through a telephone interview, the Examiner is requested to telephone the undersigned at 512-338-9100.

CERTIFICATE OF TRANSMISSION

I hereby certify that on October 2, 2009, this correspondence is being transmitted via the U.S. Patent & Trademark Office's electronic filing system.

/Kent B. Chambers/

Respectfully submitted,

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